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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/754,179	01/03/2001	Yoram Nelken	PA1438US	2818
7590	12/02/2005		EXAMINER BELL, MELTIN	
Susan Yee CARR & FERRELL LLP 2200 Geng Road Palo Alto, CA 94303			ART UNIT 2129	PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/754,179	Applicant(s) NELKEN ET AL.	
	Examiner Meltin Bell	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>11/18/05</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/9/05, 10/31/05</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

This action is responsive to application **09/754,179** filed 1/3/2001 as well as the 2/4/05 Filing Pursuant to Patent Interference No. 105,248 (Nelken v. Horvitz), the Information Disclosure Statements (IDSs) filed 6/13/05 and 1/21/05, the Amendment filed 6/9/05 and the November 2005 interviews. Claims 1-82 filed by the applicant have been entered and examined. An action on the merits of claims 1-82 appears below.

Priority

Applicant's claim for domestic priority against application number 60/176,411 filed 1/13/2000 under 35 U.S.C. 119(e) is acknowledged. However, it is noted that application number 60/176,411 does not provide support for "actual response" in claims 41-54, 56-58 and 60-77. Consequently, the priority date for claims 41-54, 56-58 and 60-77 will be the instant application's filing date, 1/3/2001.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 51 and 79-81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "substantially" and "similar" in claims 51 and 79-81 are relative terms which render the claims indefinite. The terms "substantially" and "similar" are not defined by the claims, the specification (page 4, line 12 through page 5, line 2) does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The phrases rendered indefinite by the use of the terms "substantially" and "similar" are "the predicted response" on lines 2-3 of claim 51, "the actual response" on lines 1 and 3 of claim 51, "different from" on line 3 of claim 51, "the actual action" on line 2 of claims 79-81 and lines 3 and 6 of claim 81, "differs from" on line 2 of claims 80-81 and "the predicted action" on line 1 of claims 79-81 and lines 4-5 of claim 81. The examiner recommends replacing the phrase "substantially similar to" on line 2 of claims 51 and 79 with "the same as", deleting "substantially" on line 3 of claim 51 and line 2 of claim 80, replacing the phrase "substantially differs from" on line 2 of claim 81 with "differs from" and replacing the phrase "that is substantially similar" on lines 2-3 and 5-6 of claim 81 with "most relevant".

Claim Rejections - 35 USC § 103

Applicant's arguments have been fully considered, but are moot in view of new grounds of rejection. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Office to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 9-13, 24-26 and 38-39 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* USPN 6,138,139 "Method and apparatus for supporting diverse interaction paths within a multimedia communication center" (Filed October 29, 1998) in view of *Nasr et al* USPN 5,018,215 "Knowledge and model based adaptive signal processor" and in further view of *Hartnett* USPN 6,064,971 "Adaptive knowledge base" (Filed June 7, 1995).

Regarding claim 1:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models and a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25) and *Hartnett* teaches a feedback module (column 33,

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lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base.

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al* and *Hartnett* for the purpose of ensuring optimum performance and providing a computerized knowledge base.

Regarding claim 2:

The rejection of claim 2 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 2's limitations difference is taught in *Beck et al*: the contact center is configured to send and receive communications via text-based (column 8, lines 45-65) communication channels (column 2, lines 50-54).

Regarding claim 3:

The rejection of claim 3 is the same as that for claims 2 and 1 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 9:

The rejection of claim 9 is the same as that for claim 1 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 10:

The rejection of claim 10 is the same as that for claim 1 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 11:

The rejection of claim 11 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 11's limitations difference is taught in *Beck et al*: the contact center is configured to convert received communications into a universal data model format (column 33, lines 1-23).

Regarding claim 12:

The rejection of claim 12 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 12's limitations difference is taught in *Beck et al*: an audit (column 10, lines 24-33) module configured to monitor (Abstract) responses generated by agents for quality (column 2, lines 56-67).

Regarding claim 13:

The rejection of claim 13 is the same as that for claim 12 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 24:

The rejection of claim 24 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 24's limitations difference is taught in *Beck et al*: the modeling engine is configured to automatically retrieve data based on the intent of the received communication (column 31, lines 56-67; column 32, lines 1-5).

Regarding claim 25:

The rejection of claim 25 is similar to that for claim 24 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 26:

The rejection of claim 26 is similar to that for claim 24 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 38:

The rejection of claim 38 is similar to that for claim 1 as recited above since the stated limitation of the claim is set forth in the references. Claim 38's limitations difference is taught in *Hartnett*: the feedback module is further configured to support multiple feedbacks to a single received communication (Figs. 2-3, 5-7; column 24, lines 59-63).

Regarding claim 39:

The rejection of claim 39 is similar to that for claim 1 as recited above since the stated limitations of the claim are set forth in the references. Claim 39's limitations difference is taught in *Beck et al*: the received communications comprise documents (column 20, lines 34-50).

Claims 4-6, 8, 14, 27-30, 32-33 and 35 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* and in further view of *Register et al* USPN 5,371,807 "Method and apparatus for text classification" (Dec. 6, 1994).

Regarding claim 4:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received

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communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and the contact center is configured to receive text communications comprising natural language while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Register et al* teaches the contact center is configured to receive text communications comprising natural language (Abstract).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and improving accuracy and performance over time (*Register et al*, column 2, lines 10-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Register et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and improving accuracy/performance.

Regarding claim 5:

The rejection of claim 5 is similar to that for claim 4 as recited above since the stated limitations of the claim are set forth in the references. Claim 5's limitations difference is taught in *Register et al*: the modeling engine comprises a natural language processor (Fig. 1, item 12) configured to analyze the text communications to identify concepts (column 1, lines 50-60).

Regarding claim 6:

The rejection of claim 6 is the same as that for claim 5 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 8:

The rejection of claim 8 is similar to that for claim 5 as recited above since the stated limitations of the claim are set forth in the references. Claim 8's limitations difference is taught in *Register et al*: the natural language processor comprises a lexical knowledge base (Fig. 3, items 20, 52).

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Regarding claim 14:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and each of the models in the adaptive knowledge base comprises an accuracy gauge configured to be updated by feedback while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Register et al* teaches each of the models in the adaptive knowledge base comprises an accuracy gauge configured to be updated by feedback (column 11, lines 54-68; column 12, lines 1-24).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and improving accuracy and performance over time (*Register et al*, column 2, lines 10-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Register et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and improving accuracy/performance.

Regarding claim 27:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive

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knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and the modeling engine is configured to support an application specific module while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Register et al* teaches the modeling engine is configured to support an application specific module (column 12, lines 25-35).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and improving accuracy and performance over time (*Register et al*, column 2, lines 10-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Register et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and improving accuracy/performance.

Regarding claim 28:

The rejection of claim 28 is the same as that for claim 27 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claims 29:

The rejection of claim 29 is the same as that for claim 27 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 30:

The rejection of claim 30 is similar to that for claim 27 as recited above since the stated limitations of the claim are set forth in the references. Claim 30's limitations difference is taught in *Register et al*: the application specific module is an automatic (column 10, lines 34-48) task prioritization (column 41, lines 1-20) module (column 24, lines 37-67; column 25, lines 1-8).

Regarding claim 32:

The rejection of claim 32 is similar to that for claim 27 as recited above since the stated limitations of the claim are set forth in the references. Claim 32's limitations difference is taught in *Beck et al*: the application specific module is a business process automation module (column 32, lines 28-45).

Regarding claim 33:

The rejection of claim 33 is similar to that for claim 27 as recited above since the stated limitations of the claim are set forth in the references. Claim 33's limitations difference is taught in *Beck et al*: the application specific module is a workflow application (column 11, lines 40-51).

Regarding claim 35:

The rejection of claim 35 is similar to that for claim 27 as recited above since the stated limitations of the claim are set forth in the references. Claim 35's limitations difference is taught in *Register et al*: the application specific module is configured to generally classify the received communications according to content (column 1, lines 19-37).

Claim 7 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* in view of *Register et al* and in further view of *Tokuume et al* USPN 5,101,349 "Natural language processing system" (Mar. 31, 1992).

Regarding claim 7:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base, the contact center is configured to receive text communications comprising natural language, the modeling engine comprises a natural language processor configured to analyze the text communications to identify concepts and the natural language processor performs a semantic analysis of the text communications while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* teaches the contact center is configured to receive text communications comprising natural language (Abstract) and the modeling engine comprises a natural language processor (Fig. 1, item 12) configured to analyze the text communications to identify concepts (column 1,

lines 50-60) and *Tokuume et al* teaches the natural language processor performs a semantic analysis of the text communications (column 1, lines 55-68).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13) and analyzing the input sentence (*Tokuume et al*, column 6, lines 16-20). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al* and *Tokuume et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base, improving accuracy/performance and analyzing the input sentence.

Claim 15 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* in view of *Register et al* and in further view of *Parmentier et al* "Logical structure recognition of scientific bibliographic references" (18-20 Aug. 1997).

Regarding claim 15:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and the adaptive knowledge base comprises models for active concepts and models for inactive concepts while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* teaches each of the models in the adaptive knowledge base comprises an accuracy gauge configured to be updated by feedback (column 11, lines 54-68; column 12, lines 1-24) and *Parmentier et al* teaches the adaptive knowledge base comprises models for active concepts and models for inactive concepts (page 1075, left column, last paragraph).

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Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13) and making the system more robust (*Parmentier et al*, Abstract; page 1076, right column, paragraph 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al* and *Parmentier et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base, improving accuracy/performance and making the system more robust.

Claims 16-17 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* in view of *Register et al* in view of *Parmentier et al* and in further view of *Higgins et al* USPN 5,754,671 "Method for improving cursive address recognition in mail pieces using adaptive data base management" (May 19, 1998).

Regarding claim 16:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base, the adaptive knowledge base comprises models for active concepts and models for inactive concepts and the models for active concepts become inactive when they have a sufficiently low accuracy rating while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* teaches each of the models in the adaptive knowledge base comprises an accuracy gauge configured to be updated by feedback (column 11, lines 54-68; column 12, lines 1-24), *Parmentier et al* teaches the adaptive knowledge base comprises models for active concepts and models for

inactive concepts (page 1075, left column, last paragraph) and *Higgins et al* teaches the models for active concepts become inactive when they have a sufficiently low accuracy rating (column 12, lines 22-34).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13), making the system more robust (*Parmentier et al*, Abstract; page 1076, right column, paragraph 1) and increasing the speed of cursive word recognition (*Higgins et al*, column 12, lines 3-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al*, *Parmentier et al* and *Higgins et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base, improving accuracy/performance, making the system more robust and increasing speed.

Regarding claim 17:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base, the adaptive knowledge base comprises models for active concepts and models for inactive concepts and the models for inactive concepts become active when they have a sufficiently high accuracy rating while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* teaches each of the models in the adaptive knowledge base comprises an accuracy gauge configured to be updated by feedback (column 11, lines 54-68; column 12, lines 1-24), *Parmentier et al* teaches the adaptive knowledge base comprises models for active concepts and models for

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inactive concepts (page 1075, left column, last paragraph) and *Higgins et al* teaches the models for inactive concepts become active when they have a sufficiently high accuracy rating (column 12, lines 22-34).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13), making the system more robust (*Parmentier et al*, Abstract; page 1076, right column, paragraph 1) and increasing the speed of cursive word recognition (*Higgins et al*, column 12, lines 3-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al*, *Parmentier et al* and *Higgins et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base, improving accuracy/performance, making the system more robust and increasing speed.

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* and in further view of *Liddy et al* USPN 6,006,221 "Multilingual document retrieval system and method using semantic vector matching" (Dec. 21, 1999).

Regarding claim 18:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and the models in the adaptive knowledge base are organized into categories and the categories are associated with branches while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Liddy et al* teaches the

models (column 16, lines 42-62) in the adaptive knowledge base are organized into categories and the categories are associated with branches (Fig. 7; column 9, lines 48-58).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and generating a language-independent conceptual representation of the subject content of a document and query (*Liddy et al*, Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Liddy et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and generating a language-independent conceptual representation of the subject content of a document/query.

Regarding claim 19:

The rejection of claim 19 is similar to that for claim 18 as recited above since the stated limitations of the claim are set forth in the references. Claim 19's limitations difference is taught in *Liddy et al*: the modeling engine is configured to modify the branches in the adaptive knowledge base using the feedback from the feedback module (Fig. 7; column 20, lines 16-45).

Regarding claim 20:

The rejection of claim 20 is similar to that for claim 18 as recited above since the stated limitations of the claim are set forth in the references. Claim 20's limitations difference is taught in *Liddy et al*: hierarchies of the branches (column 9, lines 48-58) in the adaptive knowledge base comprise manually created hierarchies (column 13, lines 3-27).

Regarding claim 21:

The rejection of claim 21 is the same as that for claims 18 and 20 as recited above since the stated limitations of the claim are set forth in the references. Claim 21's limitations difference is taught in *Liddy et al*: hierarchies of the branches (column 9, lines 48-58) in the adaptive knowledge base comprise automatically created hierarchies (column 13, lines 3-27).

Regarding claim 22:

The rejection of claim 22 is similar to that for claim 18 as recited above since the stated limitations of the claim are set forth in the references. Claim 22's limitations difference is taught in *Liddy et al*: the branches in the adaptive knowledge base have associated rules (column 17, lines 23-54).

Claim 23 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* and in further view of *Kohn et al* USPN 5,963,447 "Multiple-agent hybrid control architecture for intelligent real-time control of distributed nonlinear processes" (Oct. 5, 1999).

Regarding claim 23:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication, a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43) and the modeling engine includes a statistical modeler that creates the models (column 24, lines 11-26) and performs relationship modeling (column 27, lines 3-14). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and the modeling engine comprises a statistical modeler configured to create the models and perform relationship algebra using the models while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Kohn et al* teaches the modeling engine comprises a statistical (column 13, lines 3-13) modeler configured to create the models and perform relationship algebra (column 31, lines 23-31) using the models (column 35, lines 36-53).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and generating control automata that achieve near-optimal performance in spite of certain system nonlinearities, disturbances, uncertainties and changes over time (*Kohn et al*, column 4, line 62-67; column 5, lines 1-3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Kohn et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and generating control automata that achieve near-optimal performance in spite of certain system nonlinearities, disturbances, uncertainties and changes.

Claim 31 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* in view of *Register et al* and in further view of *Bowman-Amuah* USPN 6,256,773 "System, method and article of manufacture for configuration management in a development architecture framework" (Filed Aug. 31, 1999).

Regarding claim 31:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base, the modeling engine is configured to support an application specific module and the application specific module is a content filter module configured to filter content of agent-generated responses while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* teaches the modeling engine is configured to support an application specific module (column 12, lines 25-35) and *Bowman-Amuah* teaches the application specific module is a content filter (column 48, lines 50-52) module configured to filter content of agent-generated (column 108, lines 47-60) responses (column 76, lines 14-18 and 42-44; column 25, lines 1-8).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13) and improving an organization's responsiveness (*Bowman-Amuah*, column 110, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al* and *Bowman-Amuah* for the purpose of ensuring optimum performance, providing a computerized knowledge base and improving accuracy/performance and organizational responsiveness.

Claim 34 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* in view of *Register et al* and in further view of *Bennett et al* USPN 6,615,172 "Intelligent query engine for processing voice based queries" (Filed Nov. 12, 1999).

Regarding claim 34:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication and a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base, the modeling engine is configured to support an application specific module and the application specific module is a Frequently Asked Questions module while *Nasr et al* discloses an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* discloses a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base, *Register et al* discloses the modeling engine is configured to support an application specific module (column 12, lines 25-35) and *Bennett et al* teaches the application specific module (column 6, lines 61-66) is a Frequently Asked Questions module (column 8, lines 36-50).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), improving accuracy and performance over time (*Register et al*, column 2, lines 10-13) and improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett*, *Register et al* and *Bennett et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and improving accuracy/performance and speed/uniformity of response to queries.

Claims 36-37 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* and in further view of *Bennett et al*.

Regarding claim 36:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication, a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43) and the contact center is configured to send and receive communications via text-based (column 8, lines 45-65) communication channels (column 2, lines 50-54). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and a digital signal processing module configured to process received voice communications while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Bennett et al* teaches a digital signal processing module configured to process received voice communications (column 19, lines 63-67; column 20, lines 1-18).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Bennett et al* for the purpose of ensuring optimum performance and providing a computerized knowledge base and speed/uniformity of response to queries.

Regarding claim 37:

The rejection of claim 37 is similar to that for claim 36 as recited above since the stated limitations of the claim are set forth in the references. Claim 37's limitations difference is taught in *Bennett et al*: the digital signal processing

module is further configured to categorize the received voice communications (column 17, lines 48-67) according to acoustical content (column 15, lines 6-52) of the received voice communications.

Claims 40 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Hartnett* and in further view of *Higgins et al*.

Regarding claim 40:

Beck et al discloses a system for electronic communication management comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze (column 9, lines 51-60) a communication received by the contact center and determine an intent (column 9, lines 25-36) of the received communication, a module configured to analyze a response to the received communications and update the models in the knowledge base (column 37, lines 15-43) and the received communications comprise documents (column 20, lines 34-50). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models, a feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base and a statistical matching value between the documents and the models is evaluated by a calculated statistical likelihood value while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25), *Hartnett* teaches a feedback module (column 33, lines 18-31) configured to analyze (column 8, lines 25-40) a response to the received communications and provide feedback to update (column 9, lines 44-54) the adaptive knowledge base and *Higgins et al* teaches a statistical matching value between the documents (column 3, lines 45-52) and the models (column 5, lines 38-59) is evaluated by a calculated statistical likelihood value (column 11, lines 53-67; column 12, lines 1-3).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21) and increasing the speed of cursive word recognition (*Higgins et al*, column 12, lines 3-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al*, *Hartnett* and *Higgins et al* for the purpose of ensuring optimum performance, providing a computerized knowledge base and increasing speed.

Claims 41, 44-46, 49, 56 and 60 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* USPN 6,490,572 "Optimization prediction for industrial processes" (Filed May 15, 1998).

Regarding claim 41:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication. However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network.

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* for the purpose of providing for use of prediction.

Regarding claim 44:

The rejection of claim 44 is similar to that for claim 41 as recited above since the stated limitations of the claim are set forth in the references. Claim 44's limitation difference is taught in *Beck et al*: generating a predicted response to the communication comprises comparing the communication (column 15, lines 30-34) to a model (column 13, lines 52-63).

Regarding claims 45:

The rejection of claim 45 is the same as that for claim 41 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 46:

The rejection of claim 46 is the same as that for claim 41 as recited above since the stated limitations of the claim are set forth in the references.

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Regarding claim 49:

The rejection of claim 49 is similar to that for claims 41 and 44 as recited above since the stated limitations of the claim are set forth in the references. Claim 49's limitation difference is taught in *Beck et al.* generating a predicted response to the communication comprises comparing the communication to a set of models that correspond to a category related to the intent of the communication (column 14, lines 46-53).

Regarding claim 56:

Beck et al discloses computer-readable medium having a program embodied thereon, the program being executable by a computer to perform a method for electronic communication management, the method comprising: receiving a communication (column 7, lines 17-36), analyzing the communication to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted a response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication. However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to communications while *Akkiraju et al* teaches generating a predicted a response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to communications.

Motivation – The portions of the claimed computer-readable medium would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* for the purpose of providing for use of prediction.

Regarding claim 60:

Beck et al discloses a system for electronic communication management, comprising: means for (Figs. 1, 7, 8) receiving a communication (column 7, lines 17-36), means for analyzing the communication to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent (column 9, lines 25-36; column 31, lines 12-26), means for predicting a response to the communication based on the intent, generating a predicted response (column 10, lines 49-53) and means for preparing a response to the communication (column 23, lines 39-58), generating an actual response (column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose means for comparing the

actual response to the predicted response to improve subsequent predictions while *Akkiraju et al* teaches means for (column 4, lines 49-62) predicting a response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent, generating a predicted response, means for preparing a response to the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) and means for comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predictions.

Motivation – The portions of the claimed computer-readable medium would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* for the purpose of providing for use of prediction.

Claim 42 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* and in further view of *Tokuume et al*.

Regarding claim 42:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and routing the communication based on semantical content of the communication while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network and *Tokuume et al* teaches routing the communication based on semantical content of the communication (column 1, lines 55-68).

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Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and analyzing the input sentence (*Tokuume et al*, column 6, lines 16-20). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Tokuume et al* for the purpose of providing for use of prediction as well as analyzing the input sentence.

Claims 43 and 47 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* and in further view of *Masand et al* USPN 5,251,131 "Classification of data records by comparison of records to a training database using probability weights" (Oct. 5, 1993).

Regarding claim 43:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication. However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and the communication comprises a communication expressed in natural language while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network and *Masand et al* teaches the communication comprises a communication expressed in natural language (column 40, lines 63-68; column 41, lines 1-9).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and providing more accurate results (*Masand et al*, column 22, lines 6-13). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Masand et al* for the purpose of providing for use of prediction and more accurate results.

Regarding claim 47:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication. However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and the communication comprises a text communication comprising natural language while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network and *Masand et al* teaches the communication comprises a text communication comprising natural language (column 41, lines 10-17).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and providing more accurate results (*Masand et al*, column 22, lines 6-13). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Masand et al* for the purpose of providing for use of prediction and more accurate results.

Claim 48 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* in view of *Masand et al* and in further view of *Kanno et al* USPN 5,099,425 "Method and apparatus for analyzing the semantics and syntax of a sentence or a phrase" (Mar. 24, 1992).

Regarding claim 48:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10,

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lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and analyzing the communication comprises morphological analysis or semantic analysis while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network, *Masand et al* teaches the communication comprises a text communication comprising natural language (column 41, lines 10-17) and *Kanno et al* teaches analyzing the communication comprises morphological analysis or semantic analysis (column 4, lines 57-68).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20), providing more accurate results (*Masand et al*, column 22, lines 6-13) and efficiently analyzing the meaning of a sentence or phrase (*Kanno et al*, column 1, lines 17-32). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al*, *Masand et al* and *Kanno et al* for the purpose of providing for use of prediction and more accurate results efficiently.

Claims 50-51 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* and in further view of *Hellerstein et al* USPN 6,430,615 "Predictive model-based measurement acquisition employing a predictive model operating on a manager system and a managed system" (Filed March 13, 1998).

Regarding claim 50:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and comparing

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the actual response and the predicted response generates feedback that is used to modify a model while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network and *Hellerstein et al* teaches comparing the actual response and the predicted response (column 15, lines 61-67; column 16, lines 1-6) generates feedback (column 3, lines 30-46) that is used to modify a model (column 16, lines 7-33).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and reducing network traffic (*Hellerstein et al*, column 5, lines 62-67; column 6, lines 1-14). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Hellerstein et al* for the purpose of providing for use of prediction as well as reducing network traffic.

Regarding claim 51:

The rejection of claim 51 is similar to that for claim 50 as recited above since the stated limitations of the claim are set forth in the references. Claim 51's limitations difference is taught in *Hellerstein et al*: if the actual response is substantially similar to the predicted response, the generated feedback is positive, and if the actual response is substantially different from the predicted response, the generated feedback is negative (column 4, lines 31-47).

Claims 52-54 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* and in further view of *Bennett et al*.

Regarding claim 52:

Beck et al discloses a method for managing electronic communications in a computer network, the method comprising: receiving a communication over the computer network (column 7, lines 17-36), analyzing the communication at a computer coupled to the computer network (Figs. 1, 7, 8) to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to the communications received over the computer network and the

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communication comprises a voice communication expressed in natural language while *Akkiraju et al* teaches generating a predicted response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to the communications received over the computer network and *Bennett et al* teaches the communication comprises a voice communication expressed in natural language (column 23, lines 53-67; column 24, lines 1-8).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Bennett et al* for the purpose of providing for use of prediction as well as improving speed and uniformity of response to queries.

Regarding claim 53:

The rejection of claim 53 is similar to that for claim 52 as recited above since the stated limitations of the claim are set forth in the references. Claim 53's limitations difference is taught in *Bennett et al*: analyzing the communication (column 17, lines 48-67) comprises digital signal processing (column 19, lines 63-67; column 20, lines 1-18) of the voice communication.

Regarding claim 54:

The rejection of claim 54 is similar to that for claim 53 as recited above since the stated limitations of the claim are set forth in the references. Claim 54's limitations difference is taught in *Bennett et al*: generating the predicted (column 26, lines 63-67; column 27, lines 1-15) response to the communication (column 22, lines 58-67; column 23, lines 1-22) comprises categorizing (column 33, lines 60-67; column 34, lines 1-18) the voice communication based on acoustical content (column 15, lines 6-52) of the voice communication (Figs. 3, 4D, 5, 8-9).

Claims 55 and 59 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bennett et al* and in further view of *Wheeler et al* USPN 6,618,727 "System and method for performing similarity searching" (Filed Sep. 22, 1999).

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Regarding claim 55:

Beck et al discloses a method for processing a relationship event in a computer network, the method comprising: receiving the relationship event (column 21, lines 42-61) over the computer network (column 7, lines 17-36), analyzing the relationship event at a computing device coupled to the computer network (Figs. 1, 7, 8) and routing (column 17, lines 1-4) the relationship event over the computer network for action based on the category (column 11, lines 40-58) scores (column 14, lines 59-67; column 15, lines 1-4). However, *Beck et al* doesn't explicitly disclose analyzing the relationship event at a computing device coupled to the computer network to identify concepts in the relationship event, building an event model of the relationship event using the identified concepts and mapping the event model to models in a knowledge base to generate category scores while *Bennett et al* teaches analyzing (column 11, lines 23-27) the relationship (column 8, lines 36-50) event (column 21, lines 7-11) at a computer attached to the computer network (Figs. 1, 10; column 7, lines 9-33) to identify concepts (column 33, lines 12-25) in the relationship event and building an event model (column 20, lines 50-53) of the relationship event using the identified concepts (column 15, lines 6-52) and *Wheeler et al* teaches mapping (column 2, lines 36-60) the event model to models (column 7, lines 10-26) in a knowledge base (column 1, lines 35-54; column 8, lines 57-67; column 9, lines 1-3) to generate category scores (column 2, lines 61-67; column 3, lines 1-10; column 13, lines 18-38).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30) and mapping back to the relational database imported by the user (*Wheeler et al*, column 9, lines 49-67; column 10, lines 1-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bennett et al* and *Wheeler et al* for the purpose of improving accuracy/speed/uniformity of response to queries and mapping back to the relational database imported by the user.

Regarding claim 59:

Beck et al discloses a computer-readable medium having a program embodied thereon, the program being executable by a computer to perform a method for processing a relationship event, the method comprising: receiving the relationship event (column 21, lines 42-61; column 7, lines 17-36) and routing (column 17, lines 1-4) the relationship event for action based on the category (column 11, lines 40-58) scores (column 14, lines 59-67; column 15, lines 1-4). However, *Beck et al* doesn't explicitly disclose analyzing the relationship event to identify concepts in the relationship event, building an event model of the relationship event using the concepts and mapping the event model to models in a knowledge base to generate category scores while *Bennett et al* teaches analyzing (column 11, lines 23-27) the relationship (column 8, lines 36-50) event (column 21, lines 7-11) at a computer attached to the

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computer network (Figs. 1, 10; column 7, lines 9-33) to identify concepts (column 33, lines 12-25) in the relationship event and building an event model (column 20, lines 50-53) of the relationship event using the concepts (column 15, lines 6-52) and *Wheeler et al* teaches mapping (column 2, lines 36-60) the event model to models (column 7, lines 10-26) in a knowledge base (column 1, lines 35-54; column 8, lines 57-67; column 9, lines 1-3) to generate category scores (column 2, lines 61-67; column 3, lines 1-10; column 13, lines 18-38).

Motivation – The portions of the claimed computer-readable medium would have been a highly desirable feature in this art for improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30) and mapping back to the relational database imported by the user (*Wheeler et al*, column 9, lines 49-67; column 10, lines 1-18). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bennett et al* and *Wheeler et al* for the purpose of improving accuracy/speed/uniformity of response to queries and mapping back to the relational database imported by the user.

Claims 57-58 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Akkiraju et al* and in further view of *Bowman-Amuah*.

Regarding claim 57:

Beck et al discloses computer-readable medium having a program embodied thereon, the program being executable by a computer to perform a method for electronic communication management, the method comprising: receiving a communication (column 7, lines 17-36), analyzing the communication to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted a response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to communications and comparing the actual response and the predicted response occurs in real time while *Akkiraju et al* teaches generating a predicted a response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to communications and *Bowman-Amuah* teaches comparing the actual response and the predicted response (column 105, lines 6-11) occurs in real time (column 76, lines 42-44).

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Motivation – The portions of the claimed computer-readable medium would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and improving an organization's responsiveness (*Bowman-Amuah*, column 110, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Bowman-Amuah* for the purpose of providing for use of prediction as well as improving organizational responsiveness.

Regarding claim 58:

Beck et al discloses computer-readable medium having a program embodied thereon, the program being executable by a computer to perform a method for electronic communication management, the method comprising: receiving a communication (column 7, lines 17-36), analyzing the communication to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent of the communication (column 9, lines 25-36; column 31, lines 12-26), generating a predicted a response to the communication based on the intent of the communication (column 10, lines 49-53) and generating an actual response to the communication (column 23, lines 39-58; column 32, lines 28-45). However, *Beck et al* doesn't explicitly disclose comparing the actual response to the predicted response to improve subsequent predicted responses to communications and comparing the actual response and the predicted response occurs off-line while *Akkiraju et al* teaches generating a predicted a response (column 5, lines 59-67; column 6, lines 1-15) to the communication based on the intent of the communication, generating an actual response (Abstract; column 5, lines 26-34; column 6, lines 16-35) to the communication and comparing the actual response to the predicted response (column 8, lines 20-36) to improve (column 13, lines 3-8) subsequent predicted responses to communications and *Bowman-Amuah* teaches comparing the actual response and the predicted response occurs off-line (column 76, lines 42-44).

Motivation – The portions of the claimed computer-readable medium would have been a highly desirable feature in this art for providing for use of prediction instead of detailed optimization when performance gains can be realized (*Akkiraju et al*, column 14, lines 3-20) and improving an organization's responsiveness (*Bowman-Amuah*, column 110, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art (*Akkiraju et al*, column 8, lines 1-19) at the time the invention was made, to modify *Beck et al* as taught by *Akkiraju et al* and *Bowman-Amuah* for the purpose of providing for use of prediction as well as improving organizational responsiveness.

Claims 61-62 and 73-77 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Nasr et al* in view of *Bigus* USPN 5,745,652 "Adaptive resource allocation using neural networks" (Apr. 28, 1998).

Regarding claim 61:

Beck et al discloses a system for electronic communication management, comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36) via at least one communication channel and a modeling (column 29, lines 35-40) engine (column 38, lines 1-9) configured to analyze a received communication to determine (column 13, lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent (column 9, lines 11-36; column 31, lines 12-26), and further configured to retrieve data related to the intent. However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models and a feedback module configured to compare a response predicted by the modeling engine in conjunction with the models in the adaptive knowledge base and an actual response to the received communication to generate feedback, the feedback being used to update the models in the adaptive knowledge base such that the system learns from each received communication while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25) and *Bigus* teaches a feedback module (column 6, lines 17-22) configured to compare a response (column 2, lines 6-29) predicted by the modeling engine in conjunction with the models in the adaptive knowledge base (column 2, lines 39-42) and an actual response to the received communication to generate feedback (column 11, lines 19-36), the feedback being used to update the models in the adaptive knowledge base such that the system learns (column 9, lines 4-38) from each received communication.

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al* and *Bigus* for the purpose of ensuring optimum performance and constructing accurate computer system performance models.

Regarding claim 62:

The rejection of claim 62 is the same as that for claims 61 as recited above since the stated limitations of the claim are set forth in the references. Claim 62's limitations difference is taught in *Beck et al*: the modeling engine gains knowledge from communications on one communication channel and applies the knowledge to communications on another communication channel (column 12, lines 9-57).

Regarding claim 73:

Beck et al discloses a system for electronic communication management, comprising: a contact center configured (column 29, lines 60-67; column 30, lines 1-13) to send and receive communications (column 7, lines 17-36), a modeling engine (column 38, lines 1-9) configured to analyze a received communication to determine (column 13,

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lines 5-14; column 31, lines 56-67; column 32, lines 1-5) an intent (column 9, lines 25-36; column 31, lines 12-26). However, *Beck et al* doesn't explicitly disclose an adaptive knowledge base configured to store models; a modeling engine configured to analyze a received communication to determine an intent, to prepare a model of the communication based on the intent, and to compare the model of the communication with the models stored in the adaptive knowledge base to generate a predicted response and a feedback module configured to compare the predicted response with an actual response to the received communication to generate feedback used by the adaptive knowledge base to modify at least one model such that the system learns from the received communication while *Nasr et al* teaches an adaptive knowledge base (column 1, lines 64-68, column 2, lines 1-8) configured to store models (column 3, lines 4-25) and *Bigus* teaches comparing the model of the communication with the models stored in the adaptive knowledge base (column 2, lines 6-29) to generate a predicted response (column 9, lines 4-38) and a feedback module (column 6, lines 17-22) configured to compare the predicted response with an actual response (column 2, lines 39-42) to the received communication to generate feedback used by the adaptive knowledge base to modify at least one model (column 11, lines 19-36) such that the system learns from the received communication (column 9, lines 4-38).

Motivation – The portions of the claimed system would have been a highly desirable feature in this art for ensuring optimum performance (*Nasr et al*, Abstract) as well as constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Nasr et al* and *Bigus* for the purpose of ensuring optimum performance and constructing accurate computer system performance models.

Regarding claim 74:

The rejection of claim 74 is similar to that for claim 73 as recited above since the stated limitations of the claim are set forth in the references. Claim 74's limitations difference is taught in *Beck et al*: a human agent generates the actual response to the received communication (column 36, lines 36-60).

Regarding claim 75:

The rejection of claim 75 is the same as that for claim 73 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 76:

The rejection of claim 76 is similar to that for claim 73 as recited above since the stated limitations of the claim are set forth in the references. Claim 76's limitations difference is taught in *Beck et al*: the modeling engine is further

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configured to determine a plurality of intents in the received communication (column 39, lines 6-13; column 42, lines 14-23).

Regarding claim 77:

The rejection of claim 77 is the same as that for claims 73 and 76 as recited above since the stated limitations of the claim are set forth in the references.

Claim 78 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bigus*.

Regarding claim 78:

Beck et al discloses a method for real-time learning in a computerized communication management system, comprising: receiving a communication (column 7, lines 17-36) and creating a model of the communication (column 10, lines 34-65) on a computer (Figs. 1, 7, 8). However, *Beck et al* doesn't explicitly disclose comparing the model of the communication to a set of adaptive models to generate a predicted action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback and updating the set of adaptive models according to the feedback while *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback (column 6, lines 17-22) and updating the set of adaptive models according to the feedback (Figs. 2, 5A-C).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bigus* for the purpose of constructing accurate computer system performance models.

Claims 63, 65 and 67-72 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bennett et al* and in further view of *Bigus*.

Regarding claim 63:

Beck et al discloses a method for computerized analysis of communications using computer-generated adaptive models, comprising: receiving a communication (column 7, lines 17-36), analyzing content of the communication on a computer (Figs. 1, 7, 8) and generating an actual (column 23, lines 39-58) response to the communication. However, *Beck et al* doesn't explicitly disclose analyzing content of the communication on a computer to identify at least one concept of the communication, creating a model of the communication using the at least one concept, comparing the model of the communication to a set of adaptive models to generate a predicted response to the communication,

comparing the predicted response and the actual response to generate feedback and using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication while *Bennett et al* teaches analyzing (column 11, lines 23-27) content of the communication on a computer (Figs. 1, 10; column 7, lines 9-33) to identify at least one concept (column 33, lines 12-25) of the communication and creating a model (column 20, lines 50-53) of the communication using the at least one concept (column 15, lines 6-52) and *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) response to the communication, comparing the predicted response and the actual response to generate feedback (column 6, lines 17-22) and using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication (Figs. 2, 5A-B).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30) and constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bennett et al* and *Bigus* for the purpose of improving accuracy/speed/uniformity of response as well as constructing accurate computer system performance models.

Regarding claim 65:

The rejection of claim 65 is similar to that for claim 63 as recited above since the stated limitations of the claim are set forth in the references. Claim 65's limitations difference is taught in *Beck et al*: using the feedback to modify at least one of the set of adaptive models occurs in real time (column 31, lines 12-26).

Regarding claim 67:

The rejection of claim 67 is the same as that for claims 63 and 66 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 68:

The rejection of claim 68 is similar to that for claim 63 as recited above since the stated limitations of the claim are set forth in the references. Claim 68's limitations difference is taught in *Bennett et al*: the content of the communication comprises content expressed in a natural language (Abstract).

Regarding claim 69:

The rejection of claim 69 is similar to that for claims 63 and 68 as recited above since the stated limitations of the claim are set forth in the references. Claim 69's limitations difference is taught in *Beck et al*: the content of the communication comprises metadata (column 30, lines 42-54).

Regarding claim 70:

The rejection of claim 70 is similar to that for claim 63 as recited above since the stated limitations of the claim are set forth in the references. Claim 70's limitations difference is taught in *Beck et al*: the content of the communication comprises structured information (Abstract).

Regarding claim 71:

The rejection of claim 71 is the same as that for claim 63 as recited above since the stated limitations of the claim are set forth in the references.

Regarding claim 72:

The rejection of claim 72 is the same as that for claim 63 as recited above since the stated limitations of the claim are set forth in the references.

Claim 64 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bennett et al* in view of *Bigus* and in further view of *Bowman-Amuah*.

Regarding claim 64:

Beck et al discloses a method for computerized analysis of communications using computer-generated adaptive models, comprising: receiving a communication (column 7, lines 17-36), analyzing content of the communication on a computer (Figs. 1, 7, 8) and generating an actual (column 23, lines 39-58) response to the communication. However, *Beck et al* doesn't explicitly disclose analyzing content of the communication on a computer to identify at least one concept of the communication, creating a model of the communication using the at least one concept, comparing the model of the communication to a set of adaptive models to generate a predicted response to the communication, comparing the predicted response and the actual response to generate feedback, using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication and comparing the predicted response and the actual response occurs in real time while *Bennett et al* teaches analyzing (column 11, lines 23-27) content of the communication on a computer (Figs. 1, 10; column 7, lines 9-33) to identify at least one concept (column 33, lines 12-25) of the communication and creating a model (column 20, lines 50-53) of the communication using the at least one concept (column 15, lines 6-52), *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9,

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lines 4-38) response to the communication, comparing the predicted response and the actual response to generate feedback (column 6, lines 17-22) and using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication (Figs. 2, 5A-B) and *Bowman-Amuah* teaches comparing the predicted response and the actual response (column 105, lines 6-11) occurs in real time (column 76, lines 42-44).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30), constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52) and improving an organization's responsiveness (*Bowman-Amuah*, column 110, lines 25-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bennett et al*, *Bigus* and *Bowman-Amuah* and for the purpose of improving accuracy/speed/uniformity of response as well as constructing accurate computer system performance models and improving organizational responsiveness.

Claim 66 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bennett et al* in view of *Bigus* and in further view of *Hellerstein et al*.

Regarding claim 66:

Beck et al discloses a method for computerized analysis of communications using computer-generated adaptive models, comprising: receiving a communication (column 7, lines 17-36), analyzing content of the communication on a computer (Figs. 1, 7, 8) and generating an actual (column 23, lines 39-58) response to the communication. However, *Beck et al* doesn't explicitly disclose analyzing content of the communication on a computer to identify at least one concept of the communication, creating a model of the communication using the at least one concept, comparing the model of the communication to a set of adaptive models to generate a predicted response to the communication, comparing the predicted response and the actual response to generate feedback, using the feedback to modify at least one of the set of adaptive models such that the set of adaptive models learns with each received communication and comparing the predicted response and the actual response occurs while further communications are being received while *Bennett et al* teaches analyzing (column 11, lines 23-27) content of the communication on a computer (Figs. 1, 10; column 7, lines 9-33) to identify at least one concept (column 33, lines 12-25) of the communication and creating a model (column 20, lines 50-53) of the communication using the at least one concept (column 15, lines 6-52), *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) response to the communication, comparing the predicted response and the actual response to generate feedback (column 6, lines 17-22) and using the feedback to modify at least one of

the set of adaptive models such that the set of adaptive models learns with each received communication (Figs. 2, 5A-B) and *Hellerstein et al* teaches comparing the predicted response and the actual response occurs (column 15, lines 60-67; column 16, lines 1-6) while further communications are being received (Abstract).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for improving accuracy, speed and uniformity of response to speech-based queries (*Bennett et al*, column 5, lines 61-67; column 6, lines 1-30), constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52) and reducing network traffic (*Hellerstein et al*, column 5, lines 62-67; column 6, lines 1-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bennett et al*, *Bigus* and *Hellerstein et al* and for the purpose of improving accuracy/speed/uniformity of response as well as constructing accurate computer system performance models and reducing network traffic.

Claims 79-80 are rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bigus* in view of *Hellerstein et al* and in further view of *Johnson et al* "Adaptive model-based neural network control" (13-18 May 1990).

Regarding claim 79:

Beck et al discloses a method for real-time learning in a computerized communication management system, comprising: receiving a communication (column 7, lines 17-36) and creating a model of the communication (column 10, lines 34-65) on a computer (Figs. 1, 7, 8). However, *Beck et al* doesn't explicitly disclose comparing the model of the communication to a set of adaptive models to generate a predicted action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback, updating the set of adaptive models according to the feedback and if the predicted action is substantially similar to the actual action, the feedback is positive and an accuracy rating of a model in the set of adaptive models that generated the predicted action is increased while *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback (column 6, lines 17-22) and updating the set of adaptive models according to the feedback (Figs. 2, 5A-C), *Hellerstein et al* teaches if the predicted action is substantially similar to the actual action, the feedback is positive (column 4, lines 31-47) and *Johnson et al* teaches an accuracy rating of a model in the set of adaptive models that generated the predicted action is increased (page 1704, section 4.1, paragraph 2; page 1705, left column, paragraphs 1-2).

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Motivation – The portions of the claimed method would have been a highly desirable feature in this art for constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52), reducing network traffic (*Hellerstein et al*, column 5, lines 62-67; column 6, lines 1-14) and increasing performance (*Johnson et al*, page 1706, section 4.2, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bigus*, *Hellerstein et al* and *Johnson et al* for the purpose of constructing accurate computer system performance models as well as reducing network traffic and increasing performance.

Regarding claim 80:

Beck et al discloses a method for real-time learning in a computerized communication management system, comprising: receiving a communication (column 7, lines 17-36) and creating a model of the communication (column 10, lines 34-65) on a computer (Figs. 1, 7, 8). However, *Beck et al* doesn't explicitly disclose comparing the model of the communication to a set of adaptive models to generate a predicted action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback, updating the set of adaptive models according to the feedback and if the predicted action substantially differs from the actual action, the feedback is negative and an accuracy rating of a model in the set of adaptive models that generated the predicted action is decreased while *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback (column 6, lines 17-22) and updating the set of adaptive models according to the feedback (Figs. 2, 5A-C), *Hellerstein et al* teaches if the predicted action substantially differs from the actual action, the feedback is negative (column 4, lines 31-47) and *Johnson et al* teaches an accuracy rating of a model in the set of adaptive models that generated the predicted action is decreased (page 1704, section 4.1, paragraph 2; page 1705, left column, paragraphs 1-2).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52), reducing network traffic (*Hellerstein et al*, column 5, lines 62-67; column 6, lines 1-14) and increasing performance (*Johnson et al*, page 1706, section 4.2, paragraph 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bigus*, *Hellerstein et al* and *Johnson et al* for the purpose of constructing accurate computer system performance models as well as reducing network traffic and increasing performance.

Claim 81 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bigus* and in further view of *Hellerstein et al*.

Regarding claim 81:

Beck et al discloses a method for real-time learning in a computerized communication management system, comprising: receiving a communication (column 7, lines 17-36) and creating a model of the communication (column 10, lines 34-65) on a computer (Figs. 1, 7, 8). However, *Beck et al* doesn't explicitly disclose comparing the model of the communication to a set of adaptive models to generate a predicted action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback, updating the set of adaptive models according to the feedback and if the predicted action substantially differs from the actual action and if a model that is substantially similar to the actual action exists in the set of adaptive models, then the feedback is negative for a model in the set of adaptive models that generated the predicted action and the feedback is positive for the model that is substantially similar to the actual action while *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29) to generate a predicted (column 9, lines 4-38) action in response to the communication, comparing the predicted action with an actual action in response to the communication to generate feedback (column 6, lines 17-22) and updating the set of adaptive models according to the feedback (Figs. 2, 5A-C) and *Hellerstein et al* teaches if the predicted action substantially differs from the actual action and if a model that is substantially similar to the actual action exists in the set of adaptive models (column 13, lines 49-54), then the feedback is negative for a model in the set of adaptive models that generated the predicted action and the feedback is positive for the model that is substantially similar to the actual action (column 4, lines 31-47).

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52) and reducing network traffic (*Hellerstein et al*, column 5, lines 62-67; column 6, lines 1-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bigus* and *Hellerstein et al* for the purpose of constructing accurate computer system performance models as well as reducing network traffic.

Claim 82 is rejected under 35 U.S.C. 103(a) as being obvious over *Beck et al* in view of *Bigus* and in further view of *Horvitz et al* USPN 6,161,130 "Technique which utilizes a probabilistic classifier to detect "junk" e-mail by automatically updating a training and re-training the classifier based on the updated training set" (Filed June 23, 1998).

Regarding claim 82:

Beck et al discloses a method for real-time modeling of communications in a computerized communication management system comprising: receiving a communication (column 7, lines 17-36) and creating a model of the communication (column 10, lines 34-65) on a computer (Figs. 1, 7, 8) to determine a category (Fig. 2; column 11, lines 40-51; column 13, lines 52-63) for the communication (column 14: lines 2-14, 46-53, 59-67; column 15, lines 1-4. The examiner notes "interaction" as a communication category associated with content analysis category 89 and interaction routing category 93 of Fig. 2.). However, *Beck et al* doesn't explicitly disclose comparing the model of the communication to a set of adaptive models to determine a category for the communication, comparing the determined category with an actual category for the communication to generate feedback and updating the set of adaptive models according to the feedback while *Bigus* teaches comparing the model of the communication to a set of adaptive models (column 2, lines 6-29; column 6, lines 17-22) to determine a category for the communication and updating the set of adaptive models according to the feedback (Figs. 2, 5A-C; column 9, lines 4-38) and *Horvitz et al* teaches comparing the determined category (column 13, lines 48-67; column 14, lines 1-42) with an actual category (column 3, lines 15-31) for the communication to generate feedback.

Motivation – The portions of the claimed method would have been a highly desirable feature in this art for constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52) and adapting over time (*Horvitz et al*, column 4, lines 32-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify *Beck et al* as taught by *Bigus* and *Horvitz et al* for the purpose of constructing accurate computer system performance models as well as adapting over time.

RESPONSE TO APPLICANTS' ARGUMENTS

Information Disclosure Statements (IDSs)

Applicant's presume the January 18, 2005 IDS and the prior Office Action crossed in the mail and request consideration of another IDS soon-to-be submitted (Amendment REMARKS, page 17, Information Disclosure Statements section, paragraphs 1-2). Applicant's concerns have been fully addressed with this Office Action in reconsidering all the form 1449s/IDSs (6/13/05, 1/21/05, 3/1/04 and 4/9/01) and associated references in the instant application. Please find signed, dated and initialed form 1449's/IDSs submitted herewith. In particular, the examiner notes the applicant's reliance on the definitions of feedback in Webster's Third New International Dictionary and the Third Edition of the Microsoft Press Computer Dictionary as applied in the prior art.

Claim Rejections - 35 USC § 101

Applicant argues that claims 41 and 55 are directed to at least one practical application (Amendment REMARKS page 18, paragraph 1). Applicant's arguments have been fully considered and are persuasive. The rejection of claims 41 and 55 under 35 USC 101 are withdrawn.

Claim Rejections - 35 USC § 112

Applicant argues that the real time modeling method of amended claim 82 enables actual category and that the examiner's 35 USC 112, first paragraph rejection has been overcome (Amendment REMARKS page 21, Rejections Under 35 USC 112 section, paragraph 2 and page 23, paragraph 2). Applicant's arguments have been fully considered, but are moot in view of the above new grounds of rejection applying *Horvitz et al* USPN 6,161,130.

Claim Rejections - 35 USC § 103

Applicant argues that the cited references (*Beck et al* USPN 6,138,139, *Register et al* USPN 5,371,807 and *Bigus* USPN 5,745,652, for examples) fail to teach all the claimed limitations of applicant's invention:

- claim 1's adaptive knowledge base configured to store models (Amendment REMARKS page 23, Independent Claim 1 section, paragraphs 1-2) and
- claim 82's comparing the determined category with an actual category for the communication to generate feedback (Amendment REMARKS page 48, Independent Claim 82 section, paragraphs 1-2 and page 49, paragraph 1),

for examples. Applicant's arguments have been fully considered, but are moot in view of the above new grounds of rejection.

The examiner agrees that *Beck et al*, *Register et al* and *Bigus* don't disclose all the limitations claimed in the subject application:

- an adaptive knowledge base configured to store models (page 3, claim 1, line 6; page 12, claim 61, line 8; page 14, claim 73, line 4) and
- comparing the determined category with an actual category for the communication to generate feedback (page 16, claim 82, line 7),

for examples. However,

- *Nasr et al* USPN 5,018,215 column 1, lines 64-68, column 2, lines 1-8 and column 3, lines 4-25,
- *Hartnett* USPN 6,064,971 column 33, lines 18-31, column 8, lines 25-40 and column 9, lines 44-54 and

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- *Horvitz et al* USPN 6,161,130 column 13, lines 48-67 column 14, lines 1-42 and column 3, lines 15-31 are cited in combination with *Beck et al* column 29, lines 60-67, column 30, lines 1-13, column 7, lines 17-36, column 29, lines 35-40, column 38, lines 1-9, column 9, lines 51-60, column 9, lines 25-36, column 37, lines 15-43, column 13, lines 5-14, column 31, lines 56-67, column 32, lines 1-5, column 9, lines 11-36 and column 31, lines 12-26 and *Bigus* column 6, lines 17-22, column 3, lines 1-21, column 2, lines 39-42, column 2, lines 39-42, column 11, lines 19-36, column 9, lines 4-38 and column 2, lines 6-29 for meeting

- the adaptive knowledge base configured to store models limitation of claims 1, 61 and 73,
- the feedback module configured to analyze a response to the received communications and provide feedback to the modeling engine, which uses the feedback to update the models in the adaptive knowledge base limitation of claim 1 and
- the comparing the determined category with an actual category for the communication to generate feedback limitation of claim 82,

respectively. Furthermore, the purposes and motivations for modifying *Beck et al* by and in combination with other references include providing a computerized knowledge base incorporated in a computer system by which the knowledge base may be modified responsive to user evaluations and user contributions (*Hartnett*, column 6, lines 8-21), constructing accurate computer system performance models (*Bigus*, column 2, lines 52-52), ensuring optimum performance (*Nasr et al*, Abstract) and adapting over time (*Horvitz et al*, column 4, lines 32-37).

As set forth above with regards to *Beck et al*, *Hartnett*, *Bigus*, *Nasr et al* and *Horvitz et al* the items listed explicitly and inherently teach each element of the applicants' claimed limitations. Applicants have not set forth any distinction or offered any dispute between the claims of the subject application, *Beck et al*'s Method and apparatus for supporting diverse interaction paths within a multimedia communication center, *Hartnett*'s Adaptive knowledge base, *Bigus*' Adaptive resource allocation using neural networks, *Nasr et al*'s "Knowledge and model based adaptive signal processor" and *Horvitz et al*'s "Technique which utilizes a probabilistic classifier to detect "junk" e-mail by automatically updating a training and re-training the classifier based on the updated training set".

Conclusion

The following prior art made of record is considered pertinent to applicant's disclosure:

- *Agrawal et al*; US 6370526 B1; Self-adaptive method and system for providing a user-preferred ranking order of object sets
- *Ahamed et al*; US 5715371 A; Personal computer-based intelligent networks

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- *Hales et al*; US 6112126 A; Adaptive object-oriented optimization software system
- *Oku et al*; US 6098047 A; Constructing method of organization activity database, analysis sheet used therein, and organization activity management system
- *Schroeder et al*; US 6535795 B1; Method for chemical addition utilizing adaptive optimization
- *Tubel et al*; US 6434435 B1; Application of adaptive object-oriented optimization software to an automatic optimization oilfield hydrocarbon production management system
- *Amado*; US 5701400 A; Method and apparatus for applying if-then-else rules to data sets in a relational data base and generating from the results of application of said rules a database of diagnostics linked to said data sets to aid executive analysis of financial data
- *McCown et al*; US 5067099 Methods and apparatus for monitoring system performance
- *Pelissier*; US 6850513 B1; Table-based packet classification
- *Sivan*; US 6421066 B1; Method for creating a knowledge map
- *Wheeler et al*; US 6738759 B1; System and method for performing similarity searching using pointer optimization
- *Rowe et al*; US 6915344 B1; Server stress-testing response verification
- *Praitis et al*; US 6594697 B1; Client system having error page analysis and replacement capabilities
- *Akkiraju et al*; US 6490572 B2; Optimization prediction for industrial processes
- *Tzes et al*; US 5444820 A; Adaptive system and method for predicting response times in a service environment
- *Geshwind*; US 6507872; Class of methods for improving perceived efficiency of end-user interactive access of a large database such as the world-wide web via a communication network such as "The Internet"
- *Patel*; US 6768973 B1; Method for finding solutions
- *Hutchison*; US 6038556 A; Adaptive autonomous agent with verbal learning
- *Atkins*; US 5644727 A; System for the operation and management of one or more financial accounts through the use of a digital communication and computation system for exchange, investment and borrowing
- *Harhen*; US 5406477 A; Multiple reasoning and result reconciliation for enterprise analysis

Any inquiry concerning this communication or earlier communications from the Office should be directed to Melvin Bell whose telephone number is 571-272-3680. This Examiner can normally be reached on Mon - Fri 7:30 am - 4:00 pm.

If attempts to reach this Examiner by telephone are unsuccessful, his supervisor, David Vincent, can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MB / *mu*
November 28, 2005

[Signature]
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